

AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A system for damping thermo-acoustic instability in a combustor for a gas turbine, the combustor comprising at least one combustion chamber and at least one burner associated with said combustion chamber and mounted in a position corresponding to a front portion set upstream of ~~[[the]]~~ said combustion chamber; the damping system comprising a plurality of Helmholtz resonators ~~at least one Helmholtz resonator, the Helmholtz resonator~~ said plurality of Helmholtz resonators comprising a casing defining a pre-set volume therein and a neck for hydraulic connection between said pre-set volume and said combustion chamber; said neck connected to one side of said combustion chamber distant from said front upstream portion of said combustion chamber provided with said at least one burner, and at least one of said plurality Helmholtz resonators is radially spaced from at least another of said plurality of Helmholtz resonators in a circumferential direction of said combustion chamber and axially spaced from at least the another of said plurality of Helmholtz resonators in a longitudinal direction of said combustion chamber.

2. (Currently Amended) The system for damping thermo-acoustic instability according to Claim 1, said combustion chamber comprises an annular combustion chamber, said ~~at least one resonator~~ plurality of Helmholtz resonators being set in a circumferential

position about said combustion chamber, said ~~resonator~~ plurality of Helmholtz resonators housed within an air case for delivery of air for supporting combustion set outside an annular body delimiting said combustion chamber.

3. (Currently Amended) The system for damping thermo-acoustic instability according to Claim 2, said casing of the ~~resonator~~ said plurality of Helmholtz resonators comprises a passage configured to deliver cooling fluid.

4. (Currently Amended) The system for damping thermo-acoustic instability according to Claim 3, said passage comprising a plurality of holes having a pre-set diameter extending through ~~[[the]]~~ said casing of the resonator plurality of Helmholtz resonators and designed to enable passage of part of said air for supporting combustion towards said combustion chamber directly through said pre-set volume and said neck of the ~~resonator~~ said plurality of Helmholtz resonators.

5. (Currently Amended) The system for damping thermo-acoustic instability according to Claim 4, wherein said holes are provided only through an end plate of said casing of the ~~resonator~~ said plurality of Helmholtz resonators, facing the side opposite to said combustion chamber, and are arranged in positions asymmetrical to one another.

6. (Currently Amended) The system for damping thermo-acoustic instability according to Claim 2, said casing of the ~~resonator~~ said plurality of Helmholtz resonators comprises

a volume adjuster configured to selectively vary said pre-set volume within a pre-set range.

7. (Currently Amended) The system for damping thermo-acoustic instability according to Claim 6, said casing of ~~the resonator~~ said plurality of Helmholtz resonators comprises ~~[[two]]~~ first and second cup-shaped tubular bodies, which are mounted in a telescopic way co-axially on one another, with respective concavities facing one another, by a threaded coupling; and

a threaded fixing ring-nut, which is ~~coupled~~ provided outside said combustion chamber on one of said first and second cup-shaped tubular bodies ~~provided~~, in a single piece, with said neck and is configured to bear axially upon one ~~the other~~ of said first and second cup-shaped tubular bodies, ~~screwed outside on the former one on the side opposite to said combustion chamber.~~

8. (Currently Amended) The system for damping thermo-acoustic instability according to Claim 2, said casing and said neck of said ~~at least one resonator~~ plurality of Helmholtz resonators have a cylindrical symmetry and are arranged with respective axes of symmetry thereof aligned with one another and oriented to form a pre-set angle with a direction of flow of burnt gases that traverse said combustion chamber.

9. (Previously Presented) The system for damping thermo-acoustic instability according to Claim 8, said pre-set angle being approximately 90°.

10. (Currently Amended) The system for damping thermo-acoustic instability according to Claim 8, ~~further comprising more than one of said Helmholtz resonators,~~ said combustor comprising more than one of said burners; said ~~resonators~~ plurality of Helmholtz resonators being mounted circumferentially in a ring, in cantilever orientation on said annular body delimiting said combustion chamber, ~~in positions asymmetrical with respect to one another, both in a radial direction and in the axial direction with reference to an axis of symmetry of said annular combustion chamber,~~ and with the respective necks hydraulically connected to a downstream portion of said combustion chamber.